

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

**VISUAL EFFECT INNOVATIONS, LLC**

**Plaintiff,**

**v.**

**NVIDIA CORPORATION**

**Defendant**

**Civil Action No. 2:16-cv-01345**

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

This is an action for patent infringement arising under the Patent Laws of the United States of America, 35 U.S.C. § 1 et seq. in which Plaintiff Visual Effect Innovations, LLC (“VIE” or “Plaintiff”) files this patent infringement action against Defendant NVIDIA Corporation (“NVIDIA” or “Defendant”).

**BACKGROUND**

1. Plaintiff VIE is the assignee of all right, title, and interest in and to U.S. Patent No. 8,864,304, entitled “Continuous adjustable 3Deeps Filter spectacles for optimized 3Deeps stereoscopic viewing and its control method and means” (“the ‘304 Patent,” attached as Exhibit A), and U.S. Patent No. 9,167,235 (“the ‘235 Patent,” attached as Exhibit B), entitled “Faster state transitioning for continuous adjustable 3Deeps filter spectacles using multi-layered variable tint materials”) (collectively, the “Patents-in-Suit”). VIE has the exclusive right to assert all causes of action arising under the Patents-in-Suit and the right to remedies for infringement thereof.

2. The inventors on the Patents-in-Suit are Kenneth Martin Jacobs and Ronald Steven Karpf. Mr. Jacobs is the Distinguished Professor Emeritus of Cinema at SUNY Binghamton. He is the recipient of the American Film Institute’s Maya Deren Independent

Film and Video Artists Award, and the winner of the Los Angeles Film Critic's Douglas Edwards Experimental/Independent Film/Video Award. He is also the recipient of the Guggenheim Award and a special Rockefeller Foundation grant, and his work has been featured in prominent museums including the New York Museum of Modern Art, The American House in Paris, the Arsenal Theater in Berlin, the Louvre in Paris, and at the Getty Center in Los Angeles. Mr. Karp is the Founding Partner of bioinformatics company ADDIS Informatics, and Founding Partner technology security company Geo Codex LLC. Mr. Karp's has an MA and Ph.D. in Mathematical Sciences.

3. The claims of the Patents-in-Suit are directed to an electronically controlled spectacle for viewing a video, comprising a spectacle frame, optoelectronic lenses, and a control unit housed in the frame. The technologies recited in the claims of the Patents-in-Suit provide inventive concepts and do not claim any abstract idea.

4. By making, using, selling, offering for sale, and importing products including but not limited to active 3d glasses, NVIDIA is infringing the claims of the Patents-in-Suit.

### **PARTIES**

5. VIE is a Texas Limited Liability Company with a principal place of business at 1400 Preston Road, Suite 400, Plano, Texas 75093.

6. NVIDIA is a corporation headquartered at 2701 San Tomas Expressway, Santa Clara, CA 95050, with a Regional Office at 11001 Lakeline Blvd #100, Austin, TX 78717. NVIDIA is registered to do business in the State of Texas and may be served with process by delivering a summons and a true and correct copy of this Complaint to its registered agent for receipt of service of process, Corporation Service Company, 211 E. 7th Street Suite 620 Austin, TX 78701.

### **JURISDICTION AND VENUE**

7. This action arises under the patent laws of the United States, Title 35 of the

United States Code. Accordingly, this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over NVIDIA because, among other reasons, NVIDIA has established minimum contacts with the forum state of Texas.

9. As one example, NVIDIA conducts substantial activities related to its 3D vision technology out of its Austin, Texas office. NVIDIA employees with responsibilities of product management for NVIDIA 3D Vision glasses and NVIDIA 3DTV Play software work in NVIDIA's Austin, Texas office. NVIDIA manages all product definition and go-to-market activities for its 3D Vision glasses solutions out of its Austin, Texas office. NVIDIA employees in this office have been instrumental in establishing NVIDIA as a leader of consumer 3D technology.

10. As another example, NVIDIA, directly or through third-party intermediaries, makes, uses, imports, offers for sale, or sells products or services including but not limited to active 3d glasses within the state of Texas, and particularly within the Eastern District of Texas. NVIDIA has purposefully availed itself of the benefits of doing business in the State of Texas and the exercise of jurisdiction over NVIDIA would not offend traditional notions of fair play and substantial justice.

11. Venue is proper in this District under 28 U.S.C. §§ 1391 (b)-(c) and 1400(b) because NVIDIA is subject to personal jurisdiction in this District, has transacted business in this district and has committed acts of patent infringement in this District.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 8,864,304**

12. Plaintiff incorporates by reference each of the allegations in the foregoing paragraphs, and further alleges as follows:

13. On October 21, 2014, the United States Patent and Trademark Office issued

the ‘304 Patent for inventions covering an electronically controlled spectacle for viewing a video. In one claimed embodiment, the electronically controlled spectacle comprises a spectacle frame; optoelectronic lenses housed in the frame, the lenses comprising a left lens and a right lens, each of the lenses having a dark state and a light state, wherein the state of the left lens is independent of the state of the right lens; and a control unit housed in the frame, the control unit being adapted to control the state of each of the lenses independently. A true and correct copy of the ‘304 Patent is attached as Exhibit A.

14. NVIDIA has been and is now directly and indirectly infringing one or more claims of the ‘304 Patent, in this judicial District and elsewhere in the United States.

15. For example, NVIDIA directly infringes the ‘304 Patent, including but not limited to claim 1, by making, using, selling, offering for sale and importing active 3D glasses with Independent Lens Control.



<http://www.nvidia.com/object/3d-vision-main.html>

16. NVIDIA’s active 3d glasses are electronically controlled spectacles for viewing a video, e.g.:

3D Vision Specifications	
<b>Glasses</b>	
<b>Wireless</b>	
Infrared receiver	Receive signal between 1.5 and 15 feet
Power	
Battery Life	60 hours
Power button	On button
Rechargeable battery connector	USB 2.0 mini-B power connector
Indicator Lights	
Battery Level	Green and red indicator lights
Charging	Flashing amber light when charging, solid amber when fully charged
Dimensions	
Product Dimensions	6.5" x 6.4" x 1.6"
Weight	
Product Weight	56 grams/1.96 ounces

<http://www.nvidia.com/object/product-geforce-3d-vision2-wireless-glasses-us.html>

17. NVIDIA's active 3D glasses have a frame, e.g.:

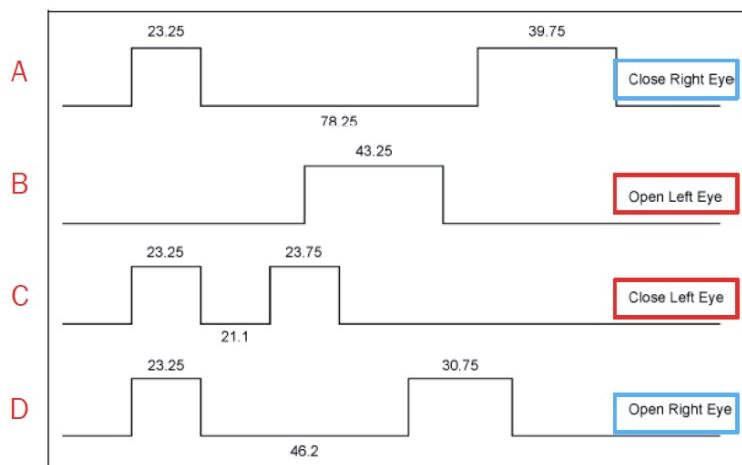


18. The lenses of NVIDIA's active 3d glasses are housed in the frame and have a dark state and a light state, e.g.:

The GeForce 3D Vision glasses work by blocking the light to alternating eyes. Each lens is essentially a monochrome LCD display that can be turned on or off. When off, light can pass through; when on, it cannot. This effect allows only certain frames in a game to be viewed by each eye, and each alternating frame is slightly offset, which in turn is perceived by our brains as a 3D image. Much in the same way our eyes actually work. We should note that the glasses provide better viewing angles and resolution than most passive glasses, through the use of higher-quality optics.

<http://hothardware.com/reviews/nvidia-geforce-3d-vision-glasses?page=2>

19. The state of the left and right lens of NVIDIA's active 3d glasses are independent of one another, e.g.:



NVIDIA's synchronization system uses different signals to control each lens independently.

If, for example, signals A and C were first transmitted, then both lenses would be dark, then if signal B is transmitted, only the left lens would be light with no change to the right lens.

Figure 9: The 3D sync IR protocol for the NVIDIA 3D VISION stand-alone emitter and glasses. (Units:  $\mu$ s)  
NB: This is a four token protocol and hence allows the display to specify the duty cycle for the glasses to operate.

[http://cmst.curtin.edu.au/wp-content/uploads/sites/4/2016/05/2012-28-woods-helliwell-cross-compatibility\\_of\\_shutter\\_glasses.pdf](http://cmst.curtin.edu.au/wp-content/uploads/sites/4/2016/05/2012-28-woods-helliwell-cross-compatibility_of_shutter_glasses.pdf)

20. NVIDIA's active 3d glasses have a control unit housed in the frame that controls the state of each lens, e.g.:



<http://3dvision-blog.com/wp-content/uploads/2009/09/3d-vision-open-1.jpg>

21. By making, using, selling, offering for sale, and importing active 3d glasses, NVIDIA is infringing the claims of the '304 Patent, including but not limited to claim 1. NVIDIA has committed these acts of infringement without license or authorization.

22. NVIDIA has injured VIE and is liable to VIE for direct and indirect infringement of the claims of the '701 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

23. As a result of NVIDIA's infringement of the '304 Patent, VIE has suffered harm and seeks monetary damages in an amount adequate to compensate for infringement, but in no event less than a reasonable royalty for the use made of the invention by NVIDIA, together with interest and costs as fixed by the Court.

**COUNT II**  
**INFRINGEMENT OF U.S. PATENT NO. 9,167,235**

24. Plaintiff incorporates by reference each of the allegations in the foregoing paragraphs, and further alleges as follows:

25. On October 20, 2015, the United States Patent and Trademark Office issued the '235 Patent for inventions covering an electronically controlled spectacle for viewing a video. In one claimed embodiment, the electronically controlled spectacle comprises a

spectacle frame; optoelectronic lenses housed in the frame, the lenses comprising a left lens and a right lens, each of the optoelectrical lenses having a plurality of states, wherein the state of the left lens is independent of the state of the right lens; and a control unit housed in the frame, the control unit being adapted to control the state of each of the lenses independently.

A true and correct copy of the ‘235 Patent is attached as Exhibit B.

26. NVIDIA has been and is now directly and indirectly infringing one or more claims of the ‘235 Patent, in this judicial District and elsewhere in the United States.

27. For example, NVIDIA directly infringes the ‘235 Patent, including but not limited to claim 1, by making, using, selling, offering for sale and importing active 3D glasses with Independent Lens Control.



<http://www.nvidia.com/object/3d-vision-main.html>

28. NVIDIA’s active 3d glasses are electronically controlled spectacles for viewing a video, e.g.:

3D Vision Specifications	
<b>Glasses</b>	
<b>Wireless</b>	
Infrared receiver	Receive signal between 1.5 and 15 feet
Power	
Battery Life	60 hours
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Indicator Lights	
Battery Level	Green and red indicator lights
Charging	Flashing amber light when charging, solid amber when fully charged
Dimensions	
Product Dimensions	6.5" x 6.4" x 1.6"
Weight	
Product Weight	56 grams/1.96 ounces

<http://www.nvidia.com/object/product-geforce-3d-vision2-wireless-glasses-us.html>

29. NVIDIA's active 3D glasses have a frame, e.g.:

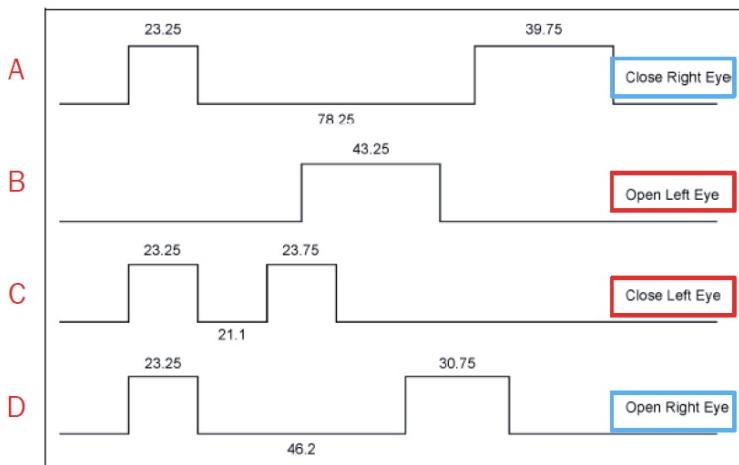


30. The lenses of NVIDIA's active 3d glasses are housed in the frame and have a plurality of states (e.g., a dark state and a light state), e.g.:

The GeForce 3D Vision glasses work by blocking the light to alternating eyes. Each lens is essentially a monochrome LCD display that can be turned on or off. When off, light can pass through; when on, it cannot. This effect allows only certain frames in a game to be viewed by each eye, and each alternating frame is slightly offset, which in turn is perceived by our brains as a 3D image. Much in the same way our eyes actually work. We should note that the glasses provide better viewing angles and resolution than most passive glasses, through the use of higher-quality optics.

<http://hothardware.com/reviews/nvidia-geforce-3d-vision-glasses?page=2>

31. The state of the left and right lens of NVIDIA's active 3d glasses are independent of one another, e.g.:



NVIDIA's synchronization system uses different signals to control each lens independently.

If, for example, signals A and C were first transmitted, then both lenses would be dark, then if signal B is transmitted, only the left lens would be light with no change to the right lens.

Figure 9: The 3D sync IR protocol for the NVIDIA 3D VISION stand-alone emitter and glasses. (Units:  $\mu$ s)  
NB: This is a four token protocol and hence allows the display to specify the duty cycle for the glasses to operate.

[http://cmst.curtin.edu.au/wp-content/uploads/sites/4/2016/05/2012-28-woods-helliwell-cross-compatibility\\_of\\_shutter\\_glasses.pdf](http://cmst.curtin.edu.au/wp-content/uploads/sites/4/2016/05/2012-28-woods-helliwell-cross-compatibility_of_shutter_glasses.pdf)

32. NVIDIA's active 3d glasses have a control unit housed in the frame that controls the state of each lens, e.g.:



<http://3dvision-blog.com/wp-content/uploads/2009/09/3d-vision-open-1.jpg>

33. By making, using, selling, offering for sale, and importing active 3d glasses, NVIDIA is infringing the claims of the '235 Patent, including but not limited to claim 1. NVIDIA has committed these acts of infringement without license or authorization.

34. NVIDIA has injured VIE and is liable to VIE for direct and indirect infringement of the claims of the '235 Patent pursuant to 35 U.S.C. § 271(a), (b), and (c).

35. As a result of Defendant's infringement of the '235 Patent, VIE has suffered harm and seeks monetary damages in an amount adequate to compensate for infringement, but in no event less than a reasonable royalty for the use made of the invention by NVIDIA, together with interest and costs as fixed by the Court.

#### **PRAAYER FOR RELIEF**

Plaintiff respectfully requests the following relief from the Court:

1. That Defendant has directly infringed the Patents-in-Suit;
2. That Defendant be ordered to pay damages to VIE, together with costs, expenses, pre-judgment, interest and post-judgment interest as allowed by law;
3. That the Court enter judgment against Defendant, and in favor of VIE in all

respects; and

4. For any such other and further relief as the Court deems just and equitable.

**JURY TRIAL DEMANDED**

5. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, VIE requests a trial by jury of any issues so triable by right.

Dated: December 1, 2016

Respectfully submitted,

/s/ Ryan E. Hatch

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